HEMATITE FUEL FABRICATION FACILITY, OXIDE BUILDING & OXIDE LOADING DOCK
(Building No. 260)
3300 State Road P
Festus
Jefferson County
Missouri

HAER MO-113-O
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PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

HISTORIC AMERICAN ENGINEERING RECORD
National Park Service
U.S. Department of the Interior
1849 C Street NW
Washington, DC 20240-0001

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HEMATITE FUEL FABRICATION FACILITY
BUILDING 260
(Oxide Building and Oxide Loading Dock)

HAER No. MO-113-O

Location: 3300 State Road P
Festus, Jefferson County, Missouri

Present Owner: Westinghouse Electric Company Limited Liability Corporation (LLC).

Present Use: Abandoned: in process of deactivation for removal of hazardous substances, and preparation for decommissioning and demolition.

Significance: The Hematite Fuel Fabrication Facility, also known as Hematite Former Fuel Cycle Facility and the Westinghouse Electric Company Hematite Facility, was constructed over a period of thirty-one years. The Facility was the first privately owned and operated uranium fuel production plant United States. The plant produced nuclear fuel for military as well as peacetime purposes throughout the "Cold War" era.

The Hematite Fuel Fabrication Facility produced high-enriched nuclear fuel for the U.S. Navy nuclear submarine program and other reactor programs during the "Cold War" years of 1956 to 1974. After 1974 the Facility produce only commercial grade low enriched uranium for commercial nuclear power facilities.

PART I. HISTORICAL INFORMATION

A. Physical History

1. **Date of Construction:** 1968

2. **Architect:** The architect was Parsons-Jurden Corporation located in New York City, New York.

3. **Owners, Occupants and Uses:** Owners include: Mallinckrodt Chemical Works, United Nuclear Corporation, Gulf United Nuclear Fuels Corporation, Combustion Engineering Corporation, Asa Brown Boveri, and Westinghouse Electric Company, LLC. Building 260 has always been used for the conversion of UF6 into uranium granules.

4. **Builder-Contractor:** The contractor for this building is unknown.

5. **Original Plans and Construction:** The location of the original plans is unknown.

6. **Alterations and Additions:** Building 260 was modified in 1970 to incorporate a different scrubber system and computer room.

B. Historical Context

Building 260 was built in 1968. The sole purpose of the building was for the conversion of uranium hexafloride (UF6) gas of various enrichments into uranium oxide granules. This new process for converting UF6 into UF4 was developed at the Hematite Fuel Fabrication Facility. Cylinders containing vaporized UF6 were delivered to the Oxide Building. Once there, the cylinders would be mounted into equipment that would convert the vapor into a liquid and them finally into a solid powder. Other compounds that were created through this process were uranium carbide and uranium dioxide.

PART II. ARCHITECTURAL INFORMATION

A. General Statement

1. **Architectural Character:** Modern industrial

2. **Condition of Fabric:** Poor condition

B. Description of Exterior

1. **Overall dimensions:** This building measures 30'-6" x 90'-11" on the first floor, 11' x 104' storage area 1, first floor, 38'-5" x 36'-4" storage area 2, first floor. The second, third and forth floors each measure 31'-5" x 36'-10." There are 3,883 square feet on the first floor and 3,441 combined square feet for the second, third, and fourth floors for a total of 7,324 square feet.

2. **Foundation:** Concrete

3. **Walls:** Corrugated plas-steel siding.

4. **Structural system, framing:** Reinforced steel

5. **Porches:** There are no porches.

6. **Chimneys:** There are no chimneys.

7. **Openings:**

   a. **Doorways and doors:** There is one doorway that exits the building on the north, and three overhead doors, one overhead exits on the east, one on the west, and the last overhead door exits on the south from the limestone storage area.

   b. **Windows:** There are no windows.

8. **Roof:**

   a. **Shape, covering:** Flat, metal sheathing over concrete

   b. **Cornice, eaves:** There are no cornices or eaves.

   c. **Dormers, cupolas, towers:** There are no dormers, cupolas or towers.

C. **Description of Interior**

1. **Floor plans:** Building 260 is divided into two equally sized rooms, the room that is entered from Building 255 consists of four levels that allow access to equipment and machinery monitoring the conversion process. The conversion process area is accessed

2. **Stairways:** There are three reinforced steel stairways leading from the first floor to the second, the second to the third, and the third to the fourth floors.

3. **Flooring:** Reinforced concrete slabs

4. **Wall and ceiling finish:** The interior walls on the first floor are a combination of painted concrete block and the corrugated plas-steel siding.

5. **Openings:** There are a set of swinging double doors that enter Building 260 from Building 255, and there is a set of swinging double doors within Building 260 leading from the reactor area into the area where the conversion process begins. There are two single doors. One door leads from the reactor area into the office area and the second door provides access to the office area into the limestone storage area. There is also a fire door that exits from the limestone storage area into Building 255.

6. **Decorative features:** There are no decorative features.

7. **Hardware:** Building 260 has modern industrial hardware.

8. **Mechanical equipment:**

   a. **Heating, air conditioning, ventilation:** Modern heating and cooling system.

   b. **Lighting:** Fluorescent

   c. **Plumbing:** There is plumbing in Building 260.

D. **Site**

1. **General setting and orientation:** Building 260 connects to Building 255 on the west, the North, east and south sides are exterior. Building 260 is the eastern-most building on the facility grounds.

2. **Historic landscape design:** There is no landscape design.

PART III. SOURCES OF INFORMATION

A. **Architectural drawings:** The original plans are currently held by Westinghouse Electric Company Limited Liability Corporation (LLC).

B. **Bibliography:**

Malich, Phillip J. *034-JE-02 Proposed Hematite Former Fuel Processing Facility*. Missouri Department of Natural Resources, State Historic Preservation Office, Jefferson City, Missouri, 2002.

Rode, James A. Deposition. November 13, 2001, in Westinghouse Electric Company LLC v US and etal. Case no.4:2003cv00861. Deposition held at the law offices of Babst and Calland, Pittsburgh, Pennsylvania.

PART IV. PROJECT INFORMATION

This Historic American Engineering Record (HAER) documentation project was undertaken due to the owner's desire to decommission the Facility. The Facility will be disassembled (this is being done for safety purposes and the work is being done in accordance with federal law and

regulations regarding hazardous waste clean-up and disposal). In 2003, Westinghouse Electric Company, LLC, hired SCI Engineering, Inc., of St. Charles, Missouri, to complete the HAER documentation of the Hematite Fuel Fabrication Facility. Dr. Steve Dasovich supervised the project and Historian Colleen Small-Vollman authored the HAER documentation report. The report was compiled by Susan Sheppard. Bruce Meyer and Todd Kapler completed the photographic documentation of the Facility, and Asa Westphal completed the floor plan drawings.